CLAIMS

What is claimed is:

- 1. An object sensing system for a motor vehicle, comprising: at least one optical sensor;
- a lens that directs a first image of a first vehicle area and a second image of a second vehicle area toward said at least one optical sensor;
- a display connected to said at least one optical sensor to display at least one of the first and second images.
- 2. The system of Claim 1, wherein the lens directs the first and second images toward one optical sensor.
- 3. The system of Claim 2, wherein the first and second images are directed to first and second areas, respectively, of the optical sensor.
- 4. The system of Claim 1, wherein said at least one optical sensor comprises at least a first optical sensor and a second optical sensor, and wherein the lens directs the first image to the first optical sensor and the second image to the second optical sensor.
- 5. The system of Claim 4, wherein the first optical sensor is sensitive to visible light and the second optical sensor is sensitive to infrared light.
- 6. The system of Claim 1, wherein said at least one optical sensor is a charge coupled device sensor that is sensitive to both visible light and infrared light.
- 7. The system of Claim 1, wherein the first image corresponds to an area behind the vehicle and the second image corresponds to at least one of a vehicle handle area and a window trap area.

- 8. The system of Claim 1, wherein the first and second images directed by the lens are contained in distinct solid angles.
- 9. The system of Claim 1, further comprising an image processing device, connected to said at least one sensor, wherein the image processing device generates a signal that indicate a presence of a foreign object in at least one of the first and second images.
- 10. The system of claim 9, wherein the image processing device detects the foreign object by detecting if a brightness of a portion at least one of the first and second images crosses a threshold.

at least one optical sensor;

- 11. An object sensing system for a motor vehicle having a window lifter and a handle for operating a vehicle leaf, the system comprising:
- a lens that directs a first image of a first vehicle area a second image of a second vehicle area toward said at least one optical sensor, wherein the first vehicle area is a rear view area behind the vehicle and the second vehicle area is one selected from the group consisting of the handle and a window lifter trap area;

a display connected to said at least one optical sensor to display at least one of the first and second images.

- 12. The system of Claim 11, wherein the lens directs the first and second images toward one optical sensor.
- 13. The system of Claim 12, wherein the first and second images are directed to first and second areas, respectively, of the optical sensor.
- 14. The system of Claim 11, wherein said at least one optical sensor comprises at least a first optical sensor and a second optical sensor, and wherein the lens directs the first image to the first optical sensor and the second image to the second optical sensor.
- 15. The system of Claim 14, wherein the first optical sensor is sensitive to visible light and the second optical sensor is sensitive to infrared light.
- 16. The system of Claim 11, wherein said at least one optical sensor is a charge coupled device sensor that is sensitive to both visible light and infrared light.
- 17. The system of Claim 11, further comprising an image processing device, connected to said at least one sensor, wherein the image processing device generates a signal that indicate a presence of a foreign object in at least one of the first and second images.

- 18. The system of Claim 17, wherein the second vehicle area is the window trap area, and wherein the system further comprises a switch that cuts of a power supply to a motor in the window lifter when the foreign object is detected in the second image.
- 19. The system of Claim 17, wherein the second vehicle area is the handle, further comprises a switch that places the handle in an unlocked position when the foreign object is detected in the second image.
- 20. The system of claim 11, wherein the vehicle leaf is a door, and wherein the lens is disposed at a waistline of the door.

21. An object detection method for a motor vehicle having a window lifter and a handle for operating a vehicle leaf, comprising:

capturing a first image of a first vehicle area and a second image of a second vehicle area, wherein the first vehicle area is a rear view area behind the vehicle and the second vehicle area is one selected from the group consisting of the handle and a window lifter trap area;

directing the first and second images to at least one optical sensor;

detecting a foreign object in the second image; and

controlling operation of at least one of the window lifter and the handle if the foreign object is detected.

- 22. The method of Claim 21, further comprising displaying at least one of the first and second images on a display.
- 23. The method of Claim 21, wherein the first and second images are directed towards different respective areas of a single optical sensor.
- 24. The method of Claim 21, wherein the first and second images are directed toward different optical sensors.
- 25. The method of Claim 21, further comprising cutting off of a power supply driving the window lifter if the foreign object is detected in the window lifter trap area.
- 26. The method of Claim 21, further comprising placing the handle in an unlocked position if the foreign object is detected in the second image.